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ABSTRACT

In response to the (Scottish) government's decision to publish annual educational examination results, on a school-by-school basis, a three-year development program was established by Grampian Education Authority (Scotland) and the Centre for Educational Sociology (CES) at the University of Edinburgh. In this report, the main findings of the development program with respect to two different types of indicators of school performance are described. The types of indicators include: young people's perceptions of their experiences at school, and the "added value" of schools in terms of their pupils' attainment. Key findings include: (1) the majority of young people who attended Grampian secondary schools found their schooling a worthwhile experience; (2) over three-quarters agreed that "school work was worth doing," "discipline was fair," and "my teachers helped me to do my best"; (3) average attainment in public examinations has risen between 1993 and 1994; (4) although there are large differences between Grampian schools in the average attainment of school leavers, most of the difference between schools are attributable to differences in pupil intakes; and (5) league tables based solely on published examination results, which do no control for pupil intake, give a misleading picture of the relative effectiveness of Grampian schools. Tables showing results of the survey are provided. (EH)

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The Effectiveness of Grampian Secondary Schools.

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THE EFFECTIVENESS OF GRAMPIAN SECONDARY SCHOOLS

January 1996

This report describes the results of a three-year development programme by Grampian Education Authority and the Centre for Educational Sociology (CES) at the University of Edinburgh. In part, the development programme was a response to the government's decision to publish annual information on public examination results on a school-by-school basis. Equally important was the Authority's wish to base its policies for the continuous improvement of its schools on the best possible information, and to ensure that the views of parents, teachers and the public were informed by a proper understanding of the strengths and limitations of indicators of school quality.

In this report we describe the main findings of the development programme with respect to two different types of indicator of school performance:

- **young people's perceptions of their experiences at school, and**
- **the "added value" of schools in terms of their pupils' attainment.**

Some Key Findings

» The majority of young people who attended Grampian secondary schools found their schooling a worthwhile experience.

» Over three-quarters agreed that "school work was worth doing", "discipline was fair", and "my teachers helped me to do my best".

» Average attainment in public examinations has risen between 1992 and 1994.

» Although there are large differences between Grampian schools in the average attainment of school leavers, most of the difference between schools is attributable to differences in pupil intakes.

» League tables based solely on published examination results, which do not control for pupil intake, give a misleading picture of the relative effectiveness of Grampian schools.

This report was written and produced by Dr Linda Croxford, Centre for Educational Sociology and Michael Cowie, Grampian Education Authority. Contributions were also made by Bruce Robertson, Grampian Education Authority; Richard Bisset, Kemnay Academy and Michael Taylor, Dyce Academy.

CES CENTRE *for* EDUCATIONAL SOCIOLOGY

Grampian Regional Council

1. Young People's Perceptions of their Experiences at School

The survey asked young people a number of questions about their experiences of school, and asked them to give "an overall view". Their responses are shown in Table 1, in terms of the percentages of young people who agreed with each statement. Questions from the Grampian surveys were subsequently included in the 1993 Scottish School Leavers Survey; comparative figures for the whole of Scotland in 1993 are included in Table 1. Grampian school leavers are generally more favourable in their perceptions of their school experiences than their counterparts throughout Scotland.

More than three-quarters of leavers from Grampian schools agreed that "school work was worth doing", "discipline was fair" and "my teachers helped me to do my best". One young person explained:

> *"I liked the way that it was always easy to approach teachers. They always helped you as much as possible. If there was something you didn't understand they were willing to explain things if you asked, giving up part of their lunch break to do so."*

Young people wanted their teachers to be friendly and approachable, but also to be able to maintain an orderly environment. Although 62 percent of respondents felt that "teachers could keep order in class", some 45 percent considered "there were too many troublemakers in my class".

The majority of school leavers had favourable perceptions of their school and most young people who attended schools in Grampian would echo the words of the youngster who commented:

> *"When I was at school the teachers really encouraged you to do your best and were there for you when ever you had a problem with school/home etc. They also wanted you to do your best and they treated you like adults, so I think my school was really worthwhile."*

It is important to note, however, that there is a disaffected minority who feel "my teachers didn't care about me". Fortunately, there were comparatively few young people alienated by their experience of school. There are, however, a number of issues raised by the survey that schools will wish to reflect on and respond to.

Table 1: Young people's perceptions of their experiences at school (Percentage agreed with statement)

	Grampian	Scotland
School work was worth doing	82	80
Discipline was fair	79	74
My teachers helped me do my best	75	71
Teachers listened to my ideas and views	72	66
If I had a problem there was always a teacher I could talk to	63	62
Teachers could keep order in class	62	67
My school dealt well with any bullying that went on	59	51
My school had a wide choice of after-school activities	47	38
Pupils respected the teachers	42	37
There was vandalism at my school during the school day	50	58
There were too many troublemakers in my class	45	44
Theft among pupils was common at my school	25	29
My teachers didn't care about me	16	16

Sources: Grampian - Grampian Surveys 1992, 1993, 1994, N (=100%) 11582
Scotland - Scottish School Leavers Survey 1993, N (=100%) 3469

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2. Added Value

Examination results published by the SOED Audit Unit can be described as "raw" results, because they do not take account of differences in pupil intake. In this report we compare the "raw" results for Grampian schools with results based on the "added value" which does take account of pupil intake.

In this study "added value" is taken to mean *the contribution made by the school to the progress of each pupil*, after taking account of differences in attainment attributable to:

- each pupil's own family background,
- the school social context,
- the relative deprivation of the neighbourhood in which the school is located,
- stability and change over three years,
- gender.

We estimate added value in terms of the final attainment of young people when they leave school. Our estimate of added value is different from that of the SOED Audit Unit because it allows for *all the progress made by pupils during their time at school*, not just between Standard Grade and Highers.

2.1 Measuring added value

The added value is an estimate. It is found by estimating what the SCE attainment of a hypothetical "average" pupil would be if:

i) we sent the same pupil to each school,
ii) each school had the same social context,
iii) each school was set in the same neighbourhood.

i) We take account of each pupil's own family background

Research at CES and elsewhere has shown that a pupil's attainment is enhanced or reduced by the relative advantage or disadvantage of the family's background circumstances in which s/he lives while at school.

In estimating the added value of schools, we take account of family background and estimate the attainment of a pupil with "average" family background characteristics in each school. By this means we can measure the effect if *we sent the same pupil to each school.*

ii) We take account of the school social context

Pupils are affected not only by their own family background, but also by the family background of the other pupils attending their school.

Family background characteristics which affect pupil attainment

An advantaged family background	A disadvantaged family background
two natural parents	lone or step parent
below-average number of siblings	above-average number of siblings
parents who had post-compulsory schooling	parents who left school at the earliest opportunity
parents who gained advanced qualifications	parents without qualifications
parents with non-manual occupations	parents with unskilled or manual occupations
father in work	father unemployed
mother full-time unpaid in the home	mother at work
living in a home owned by parents	living in rented accommodation

We find that the attainment of all pupils in a school is enhanced if the school has many pupils from advantaged backgrounds, and conversely the attainment of all pupils in a school is depressed if the school has few pupils from advantaged backgrounds.

In estimating the added value of schools we estimate what the attainment of an "average" pupil would be if each school had an "average" proportion of pupils from advantaged family backgrounds (average social context). By this means we can measure the effect if *each school had the same social context.*

iii) We take account of the effect of the relative deprivation of the neighbourhood in which the school is located

Pupils may also be affected by aspects of prosperity or deprivation in the neighbourhood surrounding their school. We use indicators of neighbourhood deprivation derived from the 1991 census to estimate what the attainment of our "average" pupil would be if each school was located in an "average" neighbourhood. By this means we can measure the effect if *each school was set in the same neighbourhood.*

A Note of Caution

Estimates of added value used in this study are not perfect measures of school effectiveness. The quality of our estimates depends on the quality of the measures we use. If we had measures of attainment on entry to S1 of secondary schooling, in addition to measures of family background, we could more accurately measure the boost given by schools to the attainment of each pupil between S1 and their SCE examinations. However, we know from research that measures of pupils' family background are correlated with S1 attainment, and estimates of added value which control fully for school intake do provide good estimates of variation between schools.

2.2 Results

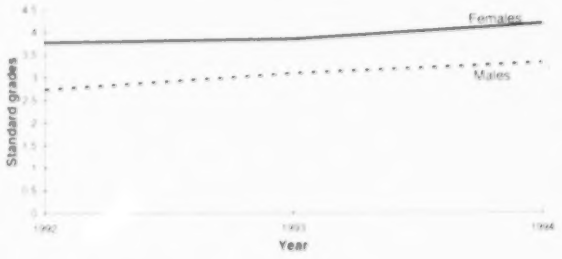
Rise in attainment of Grampian school leavers

The average SCE attainment of Grampian school leavers has risen over the three years from 1992 to 1994. This rise in attainment is the result of improved added value in Grampian schools over the three years. The majority of schools shared in the rise. However, in two schools added value did not increase over the three years to the same extent as in the rest of Grampian.

Some of the rise in the added value of schools can be attributed to the increased proportion of young people who have stayed on to post-compulsory schooling, and thereby improved their SCE qualifications. School policies for improvement may also have contributed to the rise.

Female school leavers have higher attainment than males. Part of the difference is caused by the greater tendency for girls than boys to stay on at school. However, the gender gap narrowed slightly over the three years because the attainment of males increased more than that of females. The rise in attainment of females and males of "average" family background is shown in Figure 1.

Figure 1: Predicted attainment of 'average' Grampian school leaver, 1992-1994



Differences between schools

By taking the average results over the three year period we obtain stable estimates of the added value of schools. Figures 2 and 3 show results per school averaged over three years.

Figure 2: School differences before taking account of intake, 1992-1994 average

Figure 2 shows the differences between Grampian schools in average examination results before taking account of differences in pupil intake. (These differences are similar to the "raw" examination results used in published league tables.) The horizontal line represents the Grampian average attainment. Bars on the left hand side falling below the horizontal line represent schools in which the "raw" examination results are below the Grampian average. Bars on the right hand side represent schools in which "raw" examination results are above the Grampian average. *We found a difference of five and a half Standard Grades in the "raw" averages between schools with the highest and lowest results, before taking account of pupil intake.*

Figure 3: School differences after taking account of intake, 1992-1994 average

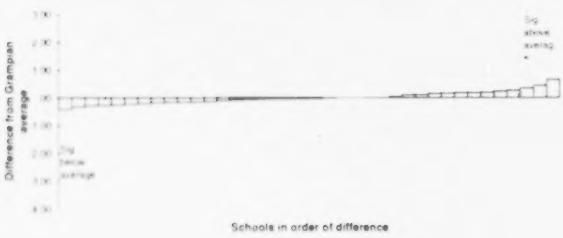


Figure 3 shows the small difference between schools after taking account of pupil intake. It is interesting to note that the ordering of schools in the two charts does not coincide. There is a difference of just one Standard Grade in the attainment of an "average" school leaver in the school with the highest added value compared to the school with the lowest added value (after taking account of differences in pupil intakes).

Statistical tests of significance show that the five schools shown on the left of Figure 3 had below average added value. The three schools shown on the right of Figure 3 had above average added value. These significant differences between schools suggest that there is very notable achievement in some schools and scope for further improvement in other schools. There is no room for complacency. *Nevertheless, the differences between schools are very small in terms of the enhancement of pupil attainment by the quality of teaching and learning within each school.*

The effect of differences in school social context

There are large differences between Grampian schools in the characteristics of the family background of pupils attending each school, and these cause serious inequalities in pupils' examination results. The attainment of an "average pupil" may be raised or lowered by two or three Standard Grades by differences in school social context.

The effects of school social context were not the same for all pupils. A school with a high social context has a greater effect in improving the attainment of a pupil whose own family background is relatively disadvantaged than of a pupil whose own family background is advantaged. Conversely, a school with low social context has a more depressing effect on the attainment of a pupil whose own family background is relatively disadvantaged. A pupil whose own family background is relatively advantaged is less affected by the social context of the school.

In this study we have not examined the process by which school social context influences attainment. Other research has suggested that in schools attended by pupils of advantaged family backgrounds pupils have more favourable attitudes to academic study and that teachers have higher expectations of their pupils.

The effect of neighbourhood deprivation

Urban deprivation in the neighbourhood of the school has a detrimental effect on pupil attainment. This is in addition to the effects of school intake characteristics. However, although most indicators of local-area deprivation are

associated with low pupil attainment, we were surprised to find that higher than average local unemployment rates are associated with higher attainment. It may be that young people in areas of high unemployment feel a greater incentive to stay on at school and improve their qualifications.

3. Some Implications of this Report

Grampian Education Authority and its schools have broken new ground with this study. The study is unique in Scotland and the UK, and has been a three-year development programme. The analysis has benefited from co-operation and dialogue between Grampian Head Teachers, Advisers and Officers. This dialogue has led to increased awareness of the assumptions and limitations of performance indicators.

- The majority of young people find their schooling worthwhile, but a small minority are alienated by their school experiences.

- There are substantial differences among Grampian schools in SCE attainment, but these differences are very poor indicators indeed of the quality of schooling or of the improvements a school is making.

- SCE differences among Grampian schools overwhelmingly reflect differences in school intake.

- There are very small differences between schools in their added value. In other words, there are very small differences between schools in the quality of the contribution of each school to the attainment of its pupils.

- Most schools cannot be separated by ranking them using added value.

- Nevertheless, there are significant differences between some schools which suggests that there is no room for complacency.

One purpose of the study has been to improve monitoring of schools by the authority. It therefore provides a base for future monitoring by the successor authorities, and has implications for their policies. Few Grampian schools differ from the regional average in their added value. But is the regional average as high as it could be? Is there scope for general improvement? An analogy might be: are the bottles half full or half empty? Consideration should now be given to how added value can be raised further.

A second purpose has been to aid school self-evaluation, development planning and improvement. So far, the results for each school have been confidential to the Head Teacher of each school. The results have not been shared between schools or within schools. We anticipate that now, at the culmination of the development programme, Head Teachers will wish to share the results and discuss them with colleagues. As well as sharing the results, we need to share the awareness of the assumptions and limitations of the results.

The findings relating to the perceptions of school leavers of their school experiences should give schools much encouragement. However, some aspects of these results will afford each school the opportunity to focus on specific improvement initiatives within the school; in particular, how can the school guard against the alienation felt by a minority of pupils?

The findings regarding added value have pointed to the many factors that contribute to pupil attainment. Pupils may suffer disadvantage because of their own family background, because of the relative disadvantage of their peers and also because of neighbourhood deprivation. These findings raise questions about the role of schools in countering disadvantage.

We anticipate that schools will use these findings to identify potential under-achievement among their pupils, and improve their ways of helping these pupils to learn. But the problem needs the consideration of Grampian and its successor authorities. Large differences between schools in their social context are a major source of inequality within the region. This should form the basis for discussion of social equity and the nature of disadvantage in Grampian schools and in the new Education Authorities.

About this study

There were three annual postal surveys of all school leavers from Education Authority schools in the region. The surveys in 1992, 1993 and 1994 related to leavers from sessions 1991/2, 1992/3 and 1993/4 respectively. The surveys described the characteristics, experiences, attainment and post-school destinations of Grampian school leavers.

Tables showing many of the results of each survey have been provided to Head Teachers, to enable them to compare the responses of leavers from their own school to those for the whole of Grampian Region. Results for each school are confidential to the school.

CES Briefings

This new series will provide regular information about the work of the Centre for Educational Sociology. *CES Briefings* are designed to make our research accessible to a wider audience, and to enhance its value for policy and practice. The following *Briefings* are also available, free of charge, from the CES:

No 1: "Participation of 16-19 year-olds in education and training: recent trends" by Paula Surridge and David Raffe.

No 2: "Leaving home" by Gill Jones.

No. 3: "A Curriculum for All?" by Linda Croxford.

Other *CES Briefings* will cover guidance, young people's incomes and other areas of our work.

Further Reading

McPherson, A. (1992) "Measuring Added Value in Schools", **National Commission on Education Briefing No 1,** (London: National Commission on Education).

Willms, J.D. (1992) **Monitoring School Performance,** (Lewes: Falmer).

Further Details

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